Apo-Sironar-W

The Lens That Makes the Leap to the Next Format

The Rodenstock Apo-Sironar-W has an angle of view of 80°. This provides a large image circle diameter. So the Apo-Sironar-W not only permits extreme movements in its nominal format, but can also be used as a moderate wide-angle lens for the next higher format while still providing enough covering power for camera movements.
The Apo-Sironar-W 150 mm f/5.6 can also be used for 13×18 cm/5×7", the Apo-Sironar-W 210 mm f/5.6 for 18×24 cm/8×10" or the Apo-Sironar-W 300 mm f/5.6 for the "exotic" format of 24×30 cm/10×12". In all these formats, the Apo-Sironar-W still allows several centimeters of camera movements if required for shift, swing or tilt.
The wide-angle Apo-Sironar-W, therefore, closes the gap between the standard lenses and the Grandagon-N wide-angle lenses. The more moderate perspective in comparison with the Grandagon-N lenses avoids the elliptical shape of spheres and cylinders which occurs in the picture corners. Although this kind of distortion is not an aberration of the lens, but correct from a perspective point of view, it can be very irritating for some motifs.

Optimum Correction of All Lens Aberrations for First-Class Sharpness Right Up To the Border

To ensure that extreme movements or the next larger format can be used without problems even for very high quality demands, Rodenstock has given special attention to the image quality at the image circle border. With a sophisticated construction comprising 7 elements in 5 groups and by using special glass combinations (including extra-low dispersion or ED glass), it was possible to achieve a sharpness which only falls slightly towards the image circle border. Thanks to the apochromatic correction no visible color fringes occur, even at high-contrast structures in the edge area.
High production quality and MC coating ensure a very low flare content and also superb shadow reproduction with brilliant, high-contrast contours. Photos are full of detail even under the most difficult lighting conditions, e. g. with exposure against a light source or on a light table.

Even Illumination and Low Distortion With Exceptionally Wide Angle of View

The critical wide-angle lens vignetting effect and consequently also total fall-off in illumination have been reduced to such an extent by the generous size of the front and back lens diameter that no center filters are needed.
Thanks to its low distortion, the Apo-Sironar-W is particularly suitable for architectural, industrial or product shots where, on one hand, large field angles are needed for high movements and, on the other hand, straight lines, e. g. building corners, react very critically to even moderate distortion.

Apo-Sironar-W 210 mm f/5.6 in Copal 3 shutter

Formats, Shutters and Lens Dimensions

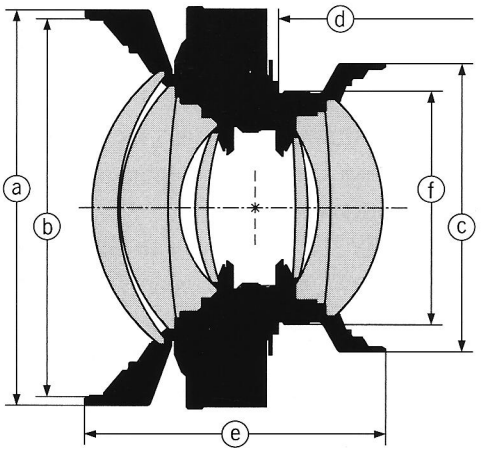
Apo-Sironar-W	Recommended maximum film format	Shutter size	Smallest aperture with shutter			Push-on mount diameter	Filter thread	Rear lens barrel diameter	Flange focal distance	Overall length	Shutter thread
			Copal	Compur	Prontor prof.	a	b	c	d	e	f
150 mm f/5.6	13×18 cm/5×7"	1/1 S	45	64	64	75 mm	M 72×0.75	57 mm	141 mm	56 mm	M 39×0.75
210 mm f/5.6	18×24 cm/8×10"	3	64	64	64	105 mm	M 100×1	76.5 mm	191 mm	79.5 mm	M 62×0.75
300 mm f/5.6	18×24 cm/8×10"	3	64	64	64	132 mm	M 127×1	105 mm	280 mm	105.5 mm	M 62×0.75

Notes on the Recommended Working Aperture

In the following table, the range given for the recommended working aperture is that range in which the highest sharpness is achieved over the whole format with the depth of field being neglected.

The larger aperture applies to unmoved lenses, i.e. when the "format range" is used. The smaller aperture applies for camera movements where the format reaches to the image circle rim, i.e. for the "movement range". In cases of low shift, swing or tilt, a corresponding intermediate value is recommended.

Depending on the reproduction ratio and the depth of the motif, the required depth of field may make further stopping down necessary. In such cases, the sharpness may be reduced due to diffraction – particularly in the center of the image circle.



Lens section: 7 elements in 5 groups

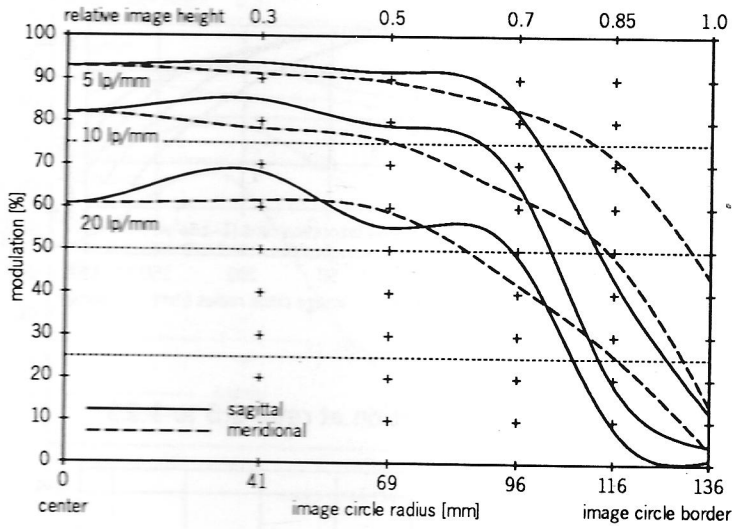
Working Aperture, Angle of View, Image Circle and Shift Limits

Apo-Sironar-W	Recomm. working aperture	Angle of view at f/22	Image circle ∅ at 1:∞ and f/22	Shift limits in mm (with horizontal format, magnification ratio 1:∞ and f/22)								
				6×7 cm	6×9 cm	6×12 cm	9×12 cm	4×5"	13×18 cm	5×7"	18×24 cm	8×10"
150 mm f/5.6	16 - 22	80°	231 mm	↑93 →89	↑90 →79	↑84 →66	↑71 →62	↑63 →56	↑32 →25	↑33 →26		
210 mm f/5.6	22 - 32	80°	316 mm			↑139 →117	↑125 →114	↑117 →109	↑93 →80	↑94 →80	↑47 →38	↑29 →24
300 mm f/5.6	32 - 45	80°	448 mm						↑169 →152	↑169 →152	↑131 →114	↑115 →102

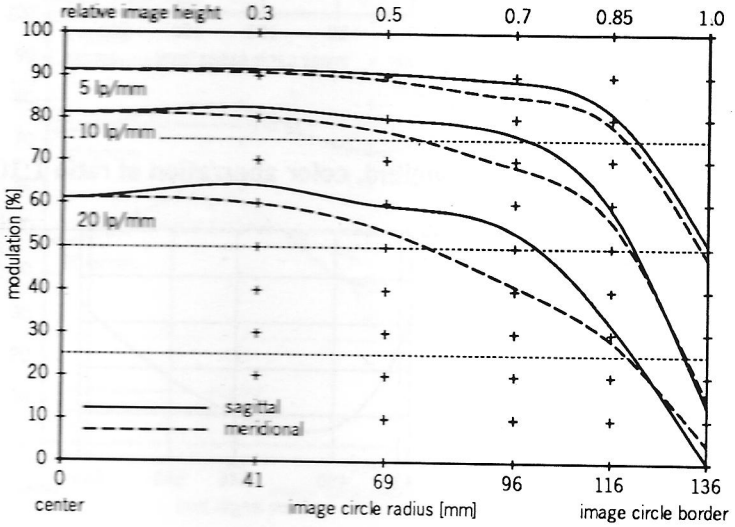
DISCONTINUED
NO LONGER
AVAILABLE
REPLACED WITH
150 mm APO SIR. S.

Apo-Sironar-W 150 mm f/5.6

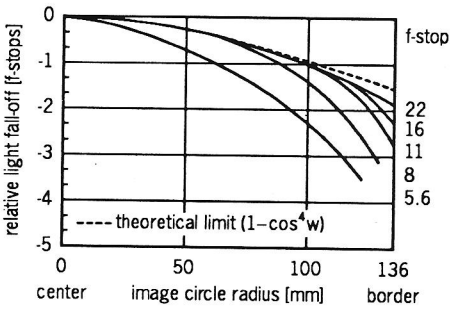
Modulation transfer function at ratio 1:10 and f-stop 11



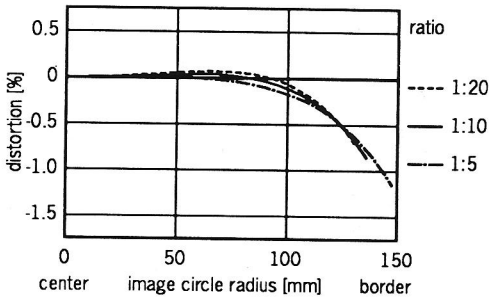
Modulation transfer function at ratio 1:10 and f-stop 22



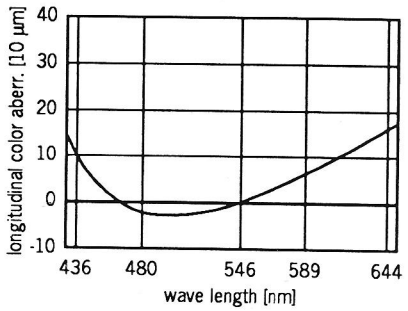
Relative light fall-off at ratio 1:10



Distortion at ratio 1:5 to 1:20



Longitud. color aberration at ratio 1:10

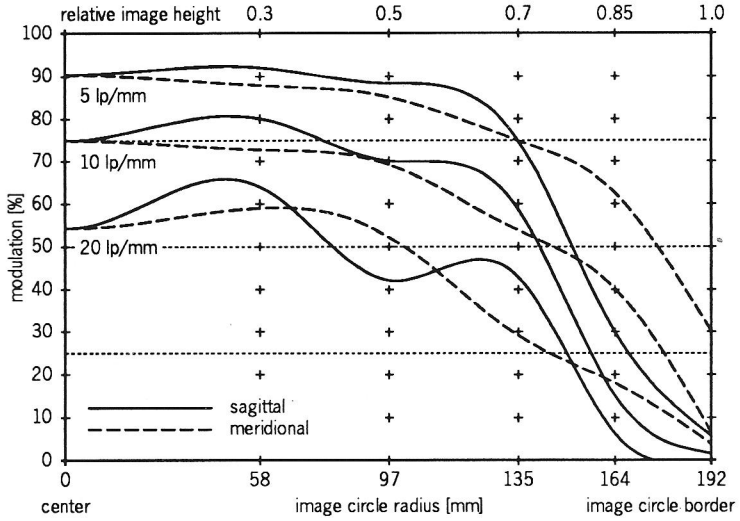


Note:
Named frequencies [line pairs/mm] in modulation transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane within the image circle at f-stop 22 for the given ratio.

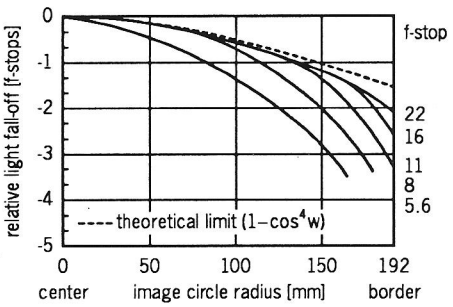
Discontinued
Limited
Availability
Replaced with
210 mm Apo Sironar S

Apo-Sironar-W 210 mm f/5.6

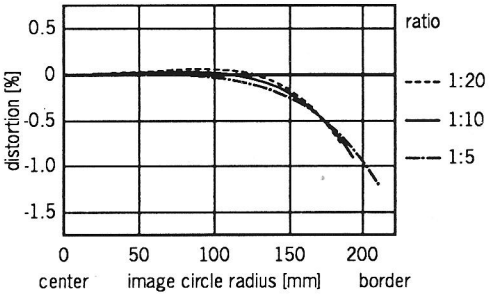
Modulation transfer function at ratio 1:10 and f-stop 11



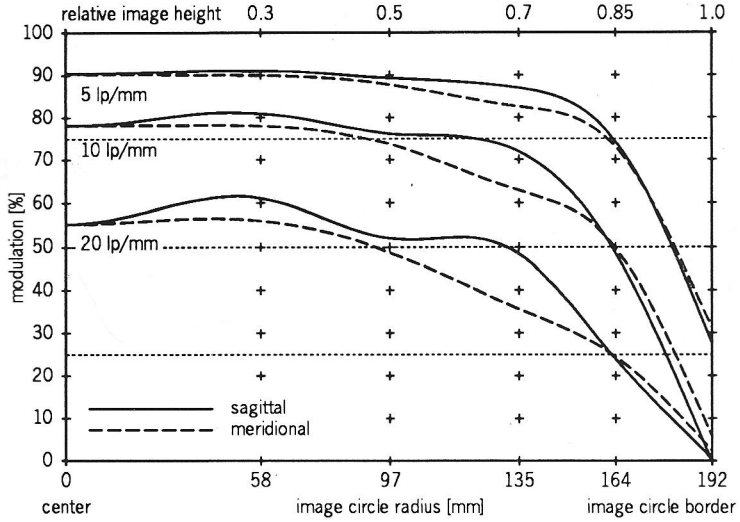
Relative light fall-off at ratio 1:10



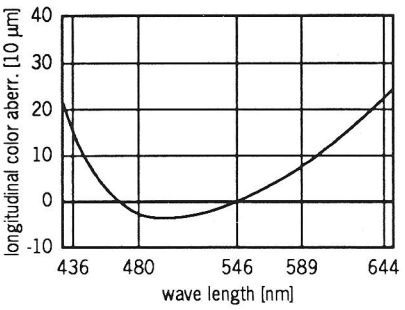
Distortion at ratio 1:5 to 1:20



Modulation transfer function at ratio 1:10 and f-stop 22



Longitud. color aberration at ratio 1:10



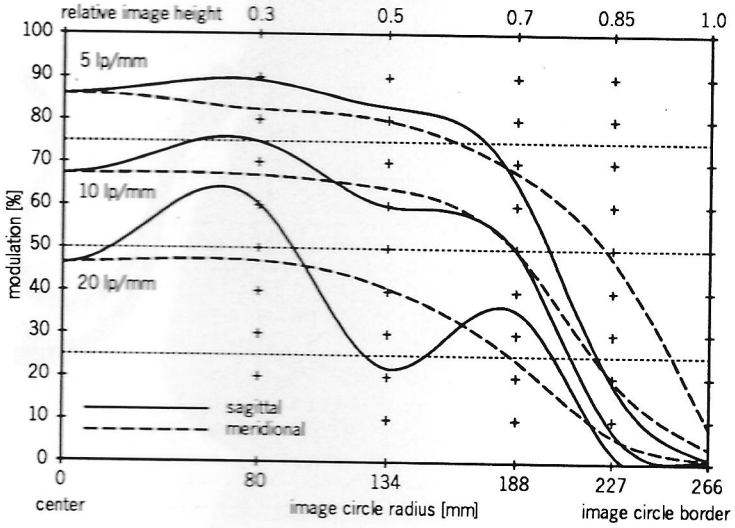
Note:

Named frequencies [line pairs/mm] in modulation transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane within the image circle at f-stop 22 for the given ratio.

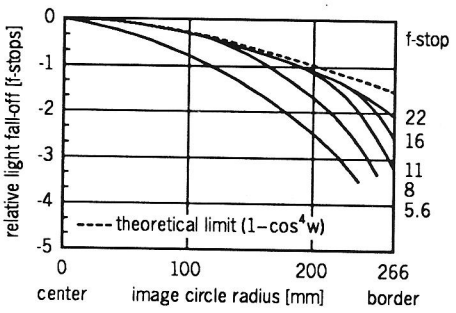
Discontinued Limited Availability Replaced With 300 mm APO Sironar S

Apo-Sironar-W 300 mm f/5.6

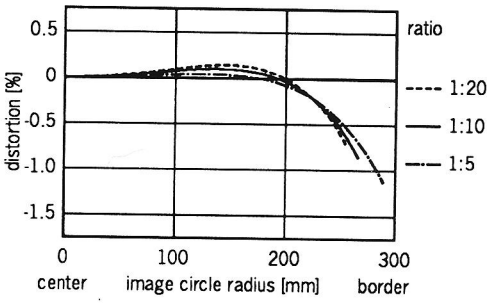
Modulation transfer function at ratio 1:10 and f-stop 11



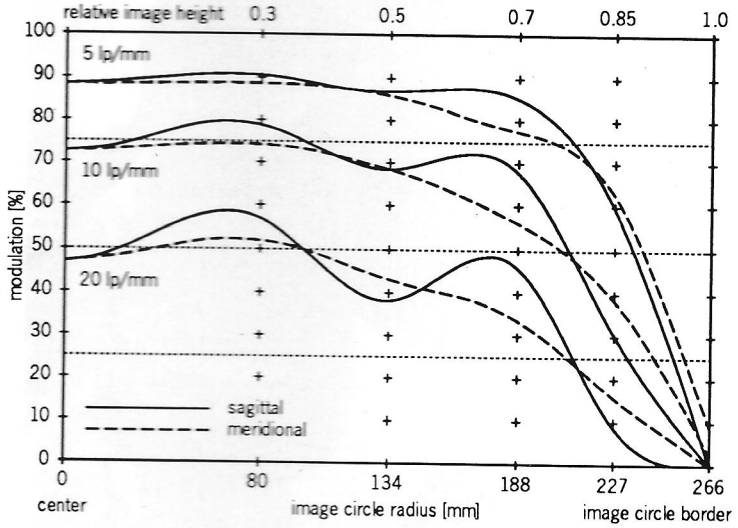
Relative light fall-off at ratio 1:10



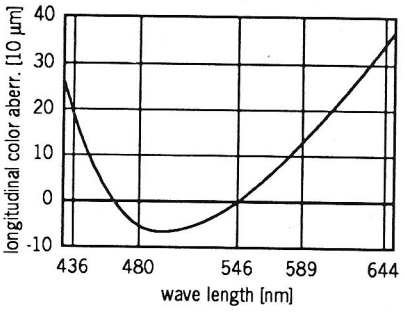
Distortion at ratio 1:5 to 1:20



Modulation transfer function at ratio 1:10 and f-stop 22



Longitud. color aberration at ratio 1:10



Note:

Named frequencies [line pairs/mm] in modulation transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane within the image circle at f-stop 22 for the given ratio.